REMARKS

Upon entry of the Amendment, Claim 9 will be pending in the application.

New Claim 9 incorporates the subject matter of all the previously pending Claims 1-3 and 5-8, now canceled without prejudice or disclaimer to the filing of a continuation application.

Entry of the Amendment is respectfully requested along with reconsideration and review of the claims on the merits.

Response to Claim Rejections - 35 U.S.C. § 103

A. Claims 1-3 and 5-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Figueroa et al. (US Publication No. 2002/0085334) in view of the "admitted prior art" and JP 03-241890 Patent Abstract (JP '890), further in view of either EP 1 122 006 or EP 1 127 638, for the reasons given in the Office Action.

The Examiner cites Figueroa as disclosing a method of making a capacitor according to the present invention, with via holes 1006 extending through all the ceramic layers. Figueroa et al. disclose that the conductive layers (internal electrodes) can be made of a thick film of nickel or copper. The Examiner acknowledges that Figueroa does not disclose that the metal in the paste has an average particle size of 2 μm or less.

The Examiner cites to Applicants' specification, characterizing certain disclosure as "admitted" prior art, and asserts that the admitted prior art teaches that in using a laser to form through holes, the surface of an end of the internal electrode retracts from the wall which defines the through hole (see [0004]).

The Examiner cites JP '890 as teaching that paste can be accurately and densely filled in an easy and efficient filling operation in through-holes in a stack of green sheets by placing the stack of green sheets on a paste tank filled with paste, placing a pressing plate on the stack and pressing the plate and paste in the tank at the same pressure to fill the through-holes, where the paste has a viscosity of at least 50×10^4 cps (500 Pa·s).

The Examiner cites EP '006 as teaching a nickel conductive paste for making a multilayer ceramic capacitor and which can control heat shrinkage while inhibiting oxidation, where the nickel paste comprises nickel powder having an average particle size of not more than 1 μm and is constituted of nickel powder, resin, solvent and may comprise glass frit.

The Examiner cites EP '638 as teaching a nickel conductive paste which is highly dispersible in an organic vehicle and which has low agglomerate properties for making a ceramic capacitor. The paste comprises nickel powder having an average particle size of 0.1-1 μm, resin, solvent and glass frit if necessary.

The reason for rejection was that it would assertedly have been obvious to modify the method of Figueroa et al. by filling the via holes with a conductive nickel paste having an average particle size of less than 1 μm, as taught by EP '006, to control heat shrinkage while inhibiting rapid oxidation or, as taught by EP '638, to provide a paste which is highly dispersible in an organic vehicle.

B. Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Ahiko et al. (US Pat. No. 6,407,907).

Applicants respond as follows.

New Claim 9 incorporates the subject matter of all the previously pending Claims 1-3 and 5-8, now canceled.

The combination of Figueroa et al. in view of the "admitted prior art" and JP '890, further in view of either EP '006 or EP '638, and further in view of Ahiko et al. fails to render obvious the present invention of new Claim 9. Applicants submit that the combination of plural obvious claims would not be obvious to a skilled artisan.

Applicants dispute the Examiner's assertion regarding "admitted" prior art. Paragraph [04] cited by the Examiner relates to "Problems to be Solved by the Invention," different from the "Description of the Related Art" in paragraphs [02] and [03]. The Examiner has failed to cite any reference which teaches the electrode receding problem. In fact, without consulting Applicants' specification, and solution thereof, the Examiner would have had no idea that such problem existed based on the prior art of record. That is, the obviousness rejection is based on hindsight reconstruction of Applicants' invention.

The method of the present invention, which comprises forming a through-hole by means of a laser beam, results in the electrode receding phenomenon, and it is recognition of the source of the problem (melting of internal electrode layers precedes melting of ceramic sheets when through-holes are formed by laser irradiation), and Applicants' solution thereof (charging filler into the through-hole under pressure such that the filler reaches the receded end portions) is accordingly unobvious over the prior art.

Accordingly, Applicants respectfully request withdrawal of the obvious rejections as being moot, and consideration and allowance of new Claim 9.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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